



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/685,709

10/16/2003

Seung-youll Jeong

1293.1982

6767

21171

7590

09/15/2006

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

MASKULINSKI, MICHAEL C

ART UNIT

PAPER NUMBER

2113

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/685,709	Applicant(s) JEONG, SEUNG-YOUL	
	Examiner Michael C. Maskulinski	Art Unit 2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-12, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 13-17 and 20-27 is/are rejected.
- 7) ☒ Claim(s) 5 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/2/04; 5/31/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Non-Final Office Action

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner is unsure as to how a second interface unit outputs the error information provided from the controller in claim 20, and then in claim 21, the controller receives the error information from the hard disk drive via the second interface unit. This seems to contradict what is in paragraphs 0054-0056 of the specification and Figure 5. The Examiner would appreciate a clarification if this rejection were in error.

Claim Objections

3. Claim 20 is objected to because of the following informalities: in line 6, "provided" should be changed to "provide". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2113

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 6, 7, 13-16, 20-23, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Takaichi, US 2003/0149918 A1.

Referring to claims 1, 26, and 27:

a. In paragraph 0042, Takaichi discloses that the disk memory I/F part controls data transfer to/from the disk memory, and reads data from the disk memory to store the data in the buffer part, or writes the data stored in the buffer part into the disk memory (a first interface unit transmitting data reproduced from a medium and receiving data to be recorded on the medium).

b. In paragraph 0116, Takaichi discloses that when the disk memory defect determining part detects the existence of a defective area in the disk memory or performance degradation of the whole disk memory, and determines that the disk memory is defective, the disk memory defect warning part notifies the display part of the determination by the disk memory defect determining part. Further, the disk memory defect warning part notifies the host device of the determination through the host I/F part (a second interface unit providing the error information to an outside of the hard disk drive).

c. In paragraph 0053, Takaichi discloses that when the end status detection part receives the notification of the data transfer end from the disk memory I/F part in step, the end status detection part detects a data transfer error which has

occurred between the disk memory I/F part and the disk memory, or an error which has occurred in the disk memory, on the basis of a process end status which is contents of the process end notification received from the disk memory I/F part (obtaining the error information including a type of the error occurring in the hard disk drive and state information indicating operation conditions of the hard disk drive).

d. In paragraph 0116, Takaichi discloses that the disk memory defect warning part notifies the host device of the determination through the host I/F part (outputting the error information and the state information to the outside via the second interface unit).

Referring to claim 2, in paragraph 0119, Takaichi discloses that when the disk memory defect determining part detects the existence of a defective area in the disk memory or performance degradation of the whole disk memory, and determines that the disk memory is defective, the disk memory defect warning part displays the determination that the disk memory is defective and contents of the defect via the display part (wherein outputting of the error information and of the state information to the outside is performed in real time irrespective of a data process performed using the first interface unit).

Referring to claims 3, 22, and 25, in paragraph 0053, Takaichi discloses that when the end status detection part receives the notification of the data transfer end from the disk memory I/F part in step, the end status detection part detects a data transfer error which has occurred between the disk memory I/F part and the disk memory, or an

Art Unit: 2113

error which has occurred in the disk memory, on the basis of a process end status which is contents of the process end notification received from the disk memory I/F part (obtaining the error information comprises operating the first interface unit based on a first command standard. Further, in paragraph 0116, Takaichi discloses that the disk memory defect warning part notifies the host device of the determination through the host I/F part (obtaining the state information comprises operating the second interface unit based on a second command standard).

Referring to claim 6, in paragraph 0053, Takaichi discloses that when the end status detection part receives the notification of the data transfer end from the disk memory I/F part in step, the end status detection part detects a data transfer error which has occurred between the disk memory I/F part and the disk memory, or an error which has occurred in the disk memory, on the basis of a process end status which is contents of the process end notification received from the disk memory I/F part (notify a host of the state information if the error occurs while executing a command issued from the host).

Referring to claim 7:

- a. In paragraph 0053, Takaichi discloses that when the end status detection part receives the notification of the data transfer end from the disk memory I/F part in step, the end status detection part detects a data transfer error which has occurred between the disk memory I/F part and the disk memory, or an error which has occurred in the disk memory, on the basis of a process end status which is contents of the process end notification received from the disk memory

I/F part (a first interface unit transmitting data reproduced from the medium to the outside and receiving data to be recorded on the medium from the outside).

b. In paragraph 0051, Takaichi discloses that the access instruction issuance part issues the access instruction to the disk memory through the disk memory I/F (a hard disk controller controlling data to be recorded on the medium or reproduced from the medium and providing error information including a type of an error occurring in the hard disk drive).

c. In paragraph 0116, Takaichi discloses that the disk memory defect warning part notifies the host device of the determination through the host I/F part (a state information manager managing the error information provided by the hard disk controller and state information indicating operation conditions of the hard disk drive).

d. In paragraph 0117, Takaichi discloses that on the basis of the notification from the disk memory defect warning part that the disk memory is defective, the display part displays contents of the notification on an LED, a display or the like (a second interface unit outputting the error information and the state information provided by the state information manager to the outside when an error occurs).

Referring to claims 13, 14, 15, and 20:

a. In paragraph 0053, Takaichi discloses that when the end status detection part receives the notification of the data transfer end from the disk memory I/F part in step, the end status detection part detects a data transfer error which has occurred between the disk memory I/F part and the disk memory, or an error

which has occurred in the disk memory, on the basis of a process end status which is contents of the process end notification received from the disk memory I/F part (a first interface unit to transmit the data reproduced from the medium to the outside and to receive the applied data to be recorded on the medium from the outside).

b. In paragraph 0051, Takaichi discloses that the access instruction issuance part issues the access instruction to the disk memory through the disk memory I/F (a hard disk controller to control the applied data to be recorded on the medium or to control the recorded data to be reproduced from the medium and to provided error information of at least a type of an error occurring in the hard disk drive).

c. In paragraph 0116, Takaichi discloses that the disk memory defect warning part notifies the host device of the determination through the host I/F part (a state information manager to manage the error information and state information indicating operation conditions of the hard disk drive).

d. In paragraph 0117, Takaichi discloses that on the basis of the notification from the disk memory defect warning part that the disk memory is defective, the display part displays contents of the notification on an LED, a display or the like (a second interface unit to output the error information and the state information to the outside in real time).

Referring to claims 16 and 23, in paragraph 0116, Takaichi discloses that the disk memory defect warning part notifies the host device of the determination through

Art Unit: 2113

the host I/F part (a state information manager to manage state information of the hard disk drive and to receive the error information from the controller).

Referring to claim 21, in paragraph 0116, Takaichi discloses when the disk memory defect determining part detects the existence of a defective area in the disk memory or performance degradation of the whole disk memory, and determines that the disk memory is defective, the disk memory defect warning part notifies the display part of the determination by the disk memory defect determining part. Further, the disk memory defect warning part notifies the host device of the determination through the host I/F part (wherein the controller receives state information indicating operation conditions of the hard disk drive and the error information from the hard disk drive via the second interface unit to determine an action to be performed to handle an error which occurs in the hard disk drive based on the error information and the state information, and informs the user of the action to be performed).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaichi, US 2003/0149918.

Referring to claim 4, Takaichi discloses a disk memory device and a disk memory interface, however, Takaichi doesn't explicitly disclose an ATAPI interface.

Art Unit: 2113

The Examiner takes Official Notice that ATAPI is a well-known standard that is used for controlling CD-ROM and DVD-ROM drives. It would have been obvious to one of ordinary skill at the time of the invention to include the ATAPI interface into the system of Takaichi. A person of ordinary skill in the art would have been motivated to make the modification because it expands the system of Takaichi to include CD-ROM and DVD-ROM drives, making it more versatile.

8. Claims 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaichi, US 2003/0149918, and further in view of Watanabe, JP411313278A (Abstract).

Referring to claims 17 and 24, in paragraph 0122, Takaichi discloses that the disk can be used for recording/reproducing AV data. Also, in paragraph 0117, Takaichi discloses notifying the user of disk defects. However, Takaichi doesn't explicitly disclose notifying the user of an operation temperature of the hard disk drive.

In the Abstract, Watanabe discloses then when photographing by the camera is started, the temperature discrimination circuit reads a current temperature by a thermometer placed in the vicinity of a recording device (hard disk) and compares the temperature with a value stored in an operating temperature storage circuit. When the current temperature exceeds the value stored in the operating temperature storage circuit, the buzzer, the LCD monitor and the external display device are used to display the warning. It would have been obvious to one of ordinary skill at the time of the invention to include the disk drive temperature sensor of Watanabe into the system of Takaichi. A person of ordinary skill in the art would have been motivated to make the modification

Art Unit: 2113

because as stated earlier, Takaichi discloses storing AV data and the invention of Watanabe allows a photographer to recognize that no recording of a photographed image is warranted through the warning by the buzzer and the external display device.

Allowable Subject Matter

9. Claims 5 and 8, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 9-12, 18, and 19 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claim 9, the prior art does not teach or reasonably suggest a third controller controlling data recording and reproducing operations of the hard disk drive by using the first controller, and receiving the error information provided by the hard disk drive by using the second controller.

Referring to claim 12, the prior art does not teach or reasonably suggest a hard disk drive including first and second interface units to transmit data to and to receive data from a recording medium and outputting the error information and the state information to the outside via only the second interface unit.

Referring to claim 18, the prior art does not teach or reasonably suggest in combination with the remaining limitations a third controller managing the first and second controllers.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art is related to notifying a user of disk drive defects.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Maskulinski whose telephone number is (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael C Maskulinski

Application/Control Number: 10/685,709
Art Unit: 2113

Page 12

Examiner
Art Unit 2113